SC/QC/RI/2019-20/W7-MM2-C1

Date: 05-01-2022

1. TEST REPORT ON CEMENT:

Sub: Testing of 53 Grade Cement Sample (IS 12269-1987).
{Project*: Repair and Improvements to drains Mandi Mariyappa Reddy main road in Mariyannapalya in ward No 07 Byatarayanapura.}
Ref.: Material testing/PMC/20-21,
Report Required for: Assistant Executive Engineer,
RI, Yelahanka Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: M/s KRIDL, Bangalore.

PHYSICAL TESTS ON CEMENT

Grade * : 53,
Type * : O.P.C

TABLE 1.1:

SL No	Name of Test	Test Results	Requirements as per IS 8112-1989
1	Initial setting time	**158 min**	Shall not be less than 30 min
2	Final setting time	**265min**	Shall not be more than 600 min
3	Fineness (by dry sieving on IS 90 micron sieve)	**2.16%**	Not to exceed 10.0%
4	Soundness test(by Le-Chatelier's method)	**2.09mm**	Shall not be more than 10 mm
5	Compressive strength a) 3 days (average of three results)	**28.75 N/Sq mm**	Shall not be less than 27 N/Sqmm

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Jakkur Butterfly Garments Road Ch:0.00m to 30.00m

Assistant Executive Engineer
Road Infrastructure, (Yelahanka Division)
Bruhat Bangalore Mahanagara Palike

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#S1317, 4th CROSS BEL 2nd STAGE BHARATH NAGAR ,BANGALORE – 560 091. CELL : 9448353883
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SC/QC/YRI/2019-20/W7-MM2-PCC1

Date: 05-01-2022

1. TESTING OF COARSE AND FINE AGGREGATES:

Sub: Testing of Coarse and Fine aggregates to be used for bed concrete.
{Project*: Repair and Improvements to drains Mandi Mariyappa Reddy main road in Mariyannapalya in ward No 07 Byatarayanapura.}
Ref.: Material testing/PMC/20-21,
Report Required for: Assistant Executive Engineer,
RI,Yelahanka Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: M/s KRIDL, Bangalore.

1. COARSE AGGRGATES TABLE - SIEVE ANALYSIS:

IS Sieve Size, mm	Percentage passing	Requirements as per IS 383-1970 (Reaffirmed on 2007) % Passing	
	40 mm Sample	Single size	Graded
40mm	100.00	85-100	90 – 100
20mm	66.25	0 -20	30- 70
10mm	30.75	0 -5	10- 35
4.75mm	4.05	-----	0- 5

2. FINE AGGREGATES TABLE - SIEVE ANALYSIS:

IS Sieve Size, mm	Percentage Passing	Specification as Per IS: 383-1970(Reaffirmed 2002) Percentage Passing			Remarks
		Zone-I	Zone-II	Zone -III	
04.75	95.70	90-100	90-100	90-100	The Sample Conforms to Grading Zone-II
02.36	83.15	60-95	75-100	85-100	
01.18	72.05	30-70	55-90	75-100	
600.mic	45.80	15-34	35-59	60-79	
300.mic	23.15	5-20	8-30	12-40	
150.mic	6.95	0-10	0-10	0-10	

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Jakkur Butterfly Garments Road Ch:0.00m to 30.00m

Page No. 1/1,

Assistant Executive Engineer
Road Infra.
Bruhat B...
(Yla Division)

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SC/QC/YRI/2019-20/W7-MM2-CE1

Date: 06-01-2022

1. TEST REPORT ON CEMENT:

Sub: Testing of 53 Grade Cement Sample (IS 12269-1987).
{Project*: Repair and Improvements to drains Mandi Mariyappa Reddy main road in Mariyannapalya in ward No 07 Byatarayanapura.}
Ref.: Material testing/PMC/20-21,
Report Required for: Assistant Executive Engineer,
RI,Yelahanka Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: M/s KRIDL, Bangalore.

PHYSICAL TESTS ON CEMENT

Grade * : 53,
Type * : O.P.C

TABLE 1.1:

SL No	Name of Test	Test Results	Requirements as per IS 8112-1989
1	Initial setting time	**164 min**	Shall not be less than 30 min
2	Final setting time	**270 min**	Shall not be more than 600 min
3	Fineness (by dry sieving on IS 90 micron sieve)	**1.86 %**	Not to exceed 10.0%
4	Soundness test(by Le-Chatelier's method)	**1.92 mm**	Shall not be more than 10 mm
5	Compressive strength a) 3 days (average of three results)	**28.55 N/Sq mm**	Shall not be less than 27 N/Sqmm

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Jakkur Butterfly Garments Road Ch:30.00m to 41.00m

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SC/QC/YRI/2019-20/W7-MM2-FA1 **Date: 06-01-2022**

1. TESTING OF FINE AGGREGATES :

Sub: Testing of Fine Aggregates.
{Project*: Repair and Improvements to drains Mandi Mariyappa Reddy main road in Mariyannapalya in ward No 07 Byatarayanapura.}
Ref.: Material testing/PMC/20-21,
Report Required for: Assistant Executive Engineer,
RI,Yelahanka Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: M/s KRIDL, Bangalore.

TABLE - 1.1 : SIEVE ANALYSIS :

IS Sieve Size,mm	Percentage Passing	Specification as Per IS: 383-1970(Reaffirmed 2002) Percentage Passing			Remarks
		Zone-I	Zone-II	Zone -II	
04.75	**96.15**	90-100	90-100	90-100	The Sample Conforms to Grading **Zone-II**
02.36	**84.25**	60-95	75-100	85-100	
01.18	**71.05**	30-70	55-90	75-100	
600. mic	**44.80**	15.34	35-59	60-79	
300.mic	**23.45**	5-20	8-30	12-40	
150.mic	**7.25**	0-10	0-10	0-10	

TABLE 1.2 ;

Sl No	Test Conducted	Sample	Results	**Requirements** as Per IS. Specification IS :383-1970 (Reaffirmed 2002)
1	Bulking of Sand	001	**17.63 %**	-----
2	Silt Content	----	**0.59%**	Not more than 8%
3	Specific Gravity	----	**2.61**	-------

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Jakkur Butterfly Garments Road

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SC/QC/YRI/2019-20/W7-MM2-CA1

Date: 06-01-2022

1. TESTING OF COARSE AGGREGATES (20 mm):

Sub: Testing of Construction Materials.
{Project*: Repair and Improvements to drains Mandi Mariyappa Reddy main road in Mariyannapalya in ward No 07 Byatarayanapura.}
Ref.: Material testing/PMC/20-21,
Report Required for: Assistant Executive Engineer,
RI,Yelahanka Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: M/s KRIDL, Bangalore.

Table - 1.1 : SIEVE ANALYSIS :

IS Sieve Size, mm	Percentage passing	Requirements as per IS 383-1970 (Reaffirmed on 2002) % Passing	
	20 mm Sample	Single size	Graded
40 mm	100.00	100.00	100.00
20 mm	98.25	85-100	90 - 100
10 mm	46.90	0 - 20	25 - 55
4.75 mm	3.65	0 - 5	0 - 10

TABLE 1.2 :

SL No	Test conducted	Results	Requirements as per IS:383-1970 & Tests Conforms to IS 2386(Part I to IV) – 1963 (Reaffirmed on 2002)
1.	Flakiness Index	26.39%	Not to exceed 25 %
2.	Crushing value	28.76%	Not to exceed 45 % for concrete other than for wearing surfaces and 30% for concrete for wearing surfaces

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Jakkur Butterfly Garments Road Ch:0.00m to 16.60m

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SC/QC/YRI/2019-20/W7-MM2-S1 Date: 06-01-2022

1. TEST REPORT ON REINFORCEMENT STEEL:

Sub: Testing of Reinforcement Steel of diameter 10 mm **TMT Steel.**
{Project*: Repair and Improvements to drains Mandi Mariyappa Reddy main road in Mariyannapalya in ward No 07 Byatarayanapura.}
Ref.: Material testing/PMC/20-21,
Report Required for: Assistant Executive Engineer,
RI, Yelahanka Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: M/s KRIDL, Bangalore.

TABLE – 1

SL No	Details	For 10 mm	
		Test Results	Min Req. as per IS 1786-2008
01	Observed diameter of bar	**10.0 mm**	10.0 mm
02	Observed Wt/m Length **Kg/m**	**0.623**	0.567
03	Proof stress/Yield stress, fy , **N/mm^2**	**546.0**	500.0
04	Bend/ Re bend Test	**Ok**	---
05	Percentage of Elongation, %	**20.70**	16.00
06	Ultimate Tensile Strength **N/mm^2**	**628.0**	565.0

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Jakkur Butterfly Garments Road

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SC/QC/YRI/2019-20/W7-MM2-CB1 **Date: 17-01-2022**

1. TEST REPORT ON CEMENT CONCRETE CUBES:

Sub: Testing of Concrete Cubes (for 07days Compressive Strength).
{Project*: Repair and Improvements to drains Mandi Mariyappa Reddy main road in Mariyannapalya in ward No 07 Byatarayanapura.}
Ref.: Material testing/PMC/20-21,
Report Required for: Assistant Executive Engineer,
RI,Yelahanka Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: M/s KRIDL, Bangalore.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE

CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm
Grade of Concrete* : M_{20}

TABLE 1.1:

Sl No	Location/ Identification*	Date of Casting*	Date of Testing	Age in Days	C/S Area in mm^2	Maximum Load in K.N	Compressive Strength (N/mm^2)	Avg. Value
1	001	10-01-22	17-01-22	07	22500	380	16.89	**16.81**
	002	"	"	"	"	370	16.44	
	003	"	"	"	"	385	17.11	

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Jakkur Butterfly Garments Road Ch:30.00m to 41.00m

Page No. 1/1,

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SCE/QC/YR1/2019-20/W7-MM2-CR2 Date: 20-01-2022

1. TEST REPORT ON CEMENT CONCRETE CUBES:

Sub: Testing of Concrete Cubes (for 07days Compressive Strength).
(Project* Repair and Improvements to drains Mandi Mariyappa Reddy main road in Mariyannapalya in ward No 07 Byatarayanapura.)

Ref. Material testing/PMC/20-21.

Report Required for: Assistant Executive Engineer,
RL Yelahanka Division,
BBMP, Bangalore.

Name of the Agency/Contractor*: M/s KRIDL, Bangalore.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE

CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm

Grade of Concrete* : M_{30}

TABLE 1.1:

Sl No	Location/ Identification*	Date of Casting*	Date of Testing	Age in Days	C/S Area in mm^2	Maximum Load in K.N	Compressive Strength (N/mm^2)	Avg. Value
1	001	13-01-22	20-01-22	07	22500	360	16.00	**16.07**
	002	"	"	"	"	355	15.78	
	003	"	"	"	"	370	16.44	

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Jakkur Butterfly Garments Road Ch:0.00m to 16.60m

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SC/QC/YRI/2019-20/W7-MM2-CB1A **Date: 07-02-2022**

1. TEST REPORT ON CEMENT CONCRETE CUBES:

Sub: Testing of Concrete Cubes (for 28days Compressive Strength).
{Project*: Repair and Improvements to drains Mandi Mariyappa Reddy main road in Mariyannapalya in ward No 07 Byatarayanapura.}
Ref.: Material testing/PMC/20-21,
Report Required for: Assistant Executive Engineer,
RI,Yelahanka Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: M/s KRIDL, Bangalore.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE

CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm
Grade of Concrete* : M_{20}

TABLE 1.1:

Sl No	Location/ Identification*	Date of Casting*	Date of Testing	Age in Days	C/S Area in mm^2	Maximum Load in K.N	Compressive Strength (N/mm^2)	Avg. Value
1	001	10-01-22	07-02-22	28	22500	525	23.33	**22.96**
	002	"	"	"	"	515	22.89	
	003	"	"	"	"	510	22.67	

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Jakkur Butterfly Garments Road Ch:30.00m to 41.00m

Assistant Executive Engineer
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SC/QC/YRI/2019-20/W7-MM2-CB2A

Date: 10-02-2022

1. TEST REPORT ON CEMENT CONCRETE CUBES:

Sub: Testing of Concrete Cubes (for 28days Compressive Strength).
{Project*: Repair and Improvements to drains Mandi Mariyappa Reddy main road in Mariyannapalya in ward No 07 Byatarayanapura.}
Ref.: Material testing/PMC/20-21,
Report Required for: Assistant Executive Engineer,
RI,Yelahanka Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: M/s KRIDL, Bangalore.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE

CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm

Grade of Concrete* : M_{20}

TABLE 1.1:

Sl No	Location/ Identification*	Date of Casting*	Date of Testing	Age in Days	C/S Area in mm^2	Maximum Load in K.N	Compressive Strength (N/mm^2)	Avg. Value
1	001	13-01-22	10-02-22	28	22500	520	23.11	**22.74**
	002	"	"	"	"	510	22.67	
	003	"	"	"	"	505	22.44	

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Jakkur Butterfly Garments Road Ch:0.00m to 16.60m

Page No. 1/1,

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SC/QC/YRI/2019-20/W7-MM2-GSB1 Date: 31-01-2021

TEST REPORT ON GRANULAR SUBBASE MIX
(GRADATION TEST)

Sub: To conduct tests on GSB (Grade-V) mix.
{Project*: Repair and Improvements to drains Mandi Mariyappa Reddy main road in Mariyannapalya in ward No 07 Byatarayanapura.}
Ref.: Material testing/PMC/20-21,
Report Required for: Assistant Executive Engineer,
RI,Yelahanka Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: M/s KRIDL, Bangalore.

TEST RESULTS

1. **Gradation Test:**
TABLE 1.1

Sieve Size mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Specified Limits as per MoRTH Specifications, V Revision-2013
75.00	**100.00**	100
53.00	**98.45**	80-100
26.50	**74.60**	55-90
9.50	**52.15**	35-65
4.75	**43.05**	25-50
2.36	**18.25**	10-20
0.85	**7.50**	2-10
0.425	**3.25**	0-5

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Balaji layout Road 02 Ch:30.00m to 59.00m

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Date: 02-02-2021

TABLE 1.2

SL No	Test conducted	Test Results	Tests Conforms to IS 2386(Part I to IV)– 1963 (Reaffirmed on 2002) & Requirements as per IS:383-1970 & M.o.R.T.H Specification, V Revision -2013.
1.	Water absorption, %	**0.42 %**	Not more than 2.0 %
2.	Liquid Limit, %	**18.39**	Not more than 25.0 %
3.	Plasticity Index, %	**NP**	Not more than 6.0 %
4.	Moisture Content, %	**6.56**	----------
5.	Aggregate Impact Value, %	**28.63**	Not more than 40.00 %

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Balaji layout Road 02 Ch:30.00m to 59.00m

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SC/QC/YRI/2019-20/W7-MM2 /PB1 **Date: 02-02-2022**

TEST REPORT

Sub: Testing of Pre-cast Paver Blocks of thickness 75mm.
{Project*: Restoration and Improvements of Roads At Suryavamshi Layout, Synvika Vihara Layout, Sai Vihara Layout, Naidu Layout, Nagenahalli Layout And Surrounding Areas In Ward No-02 of Yelahanka Sub Division (PKG NO-01).}
Ref.: Material testing/PMC/21-22,
Report Required for: Assistant Executive Engineer,
Yelahanka Sub Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: M/s A.C.R Projects , Channa Reddy, Bangalore.

Technical Reference*: IS 15658-2006.

PHYSICAL TESTS ON PRECAST PAVER BLOCKS.

1.COMPRESSIVE STRENGTH:

Sl No	Identification	Compressive Strength, N/mm^2	Average Compressive Strength, N/mm^2
1	001	**41.85**	**41.96**
2	002	**42.15**	
3	003	**41.30**	
4	004	**42.55**	

The result of the materials tested meets the standards and hence can be used for the work
Sample Collected Site : Jakkur From KV jayaraman Main Road Ch: 90.00m to 120.00m

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SC/QC/YRI/2019-20/W7-MM2 /PB2 **Date: 05-02-2022**

TEST REPORT

Sub: Testing of Pre-cast Paver Blocks of thickness 75mm.
{Project*: Restoration and Improvements of Roads At Suryavamshi Layout, Synvika Vihara Layout, Sai Vihara Layout, Naidu Layout, Nagenahalli Layout And Surrounding Areas In Ward No-02 of Yelahanka Sub Division (PKG NO-01).}
Ref.: Material testing/PMC/21-22,
Report Required for: Assistant Executive Engineer,
Yelahanka Sub Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: M/s A.C.R Projects , Channa Reddy, Bangalore.

Technical Reference*: IS 15658-2006.

PHYSICAL TESTS ON PRECAST PAVER BLOCKS.

1.COMPRESSIVE STRENGTH:

Sl No	Identification	Compressive Strength, N/mm^2	Average Compressive Strength, N/mm^2
1	001	41.35	42.00
2	002	42.65	
3	003	41.20	
4	004	42.80	

The result of the materials tested meets the standards and hence can be used for the work
Sample Collected Site : Jakkur From Butterfly Fashion Garments Road Ch: 108.00m to 138.00m

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SC/QC/YRI/2019-20/W7-MM2-KS1

Date: 31-01-2022

TEST REPORT

Sub: Testing of Pre-cast Material-Kerb Stones.
{Project*: Repair and Improvements to drains Mandi Mariyappa Reddy main road in Mariyannapalya in ward No 07 Byatarayanapura.}
Ref.: Material testing/PMC/20-21,
Report Required for: Assistant Executive Engineer,
RI, Yelahanka Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: M/s KRIDL, Bangalore.

1. PHYSICAL TESTS ON KERB STONES :

Sl No.	Identification	Flexural strength, fcr in N/sqmm	Characteristic Compressive Strength, fck in N/sqmm	Avg. Characteristic. Compressive Strength fck in N/sqmm	Remarks
1	001	3.38	23.45	**23.22**	As per Cl. 6.2.2 of IS 456- 2000, fcr=0.7√ fck
2	002	3.35	22.95		
3	003	3.37	23.30		

2. WATER ABSORPTION TEST

Sl No	Identification	Water absorption %	Average value %
1	001	4.39	**4.45**
2	002	4.45	
3	003	4.53	

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Jakkur Government High School Beside Rd Ch: 30.00m to 60.00m

Assistant Executive Engineer
Road Infrastructure (Yelahanka Division)
Bruhat Bengal... Mahanagara Palike
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SC/QC/YRI/2019-20/W7-MM2-KS2 **Date: 01-02-2022**

TEST REPORT

Sub: Testing of Pre-cast Material-Kerb Stones.
{Project*: Repair and Improvements to drains Mandi Mariyappa Reddy main road in Mariyannapalya in ward No 07 Byatarayanapura.}
Ref.: Material testing/PMC/20-21,
Report Required for: Assistant Executive Engineer,
RI, Yelahanka Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: M/s KRIDL, Bangalore.

1. PHYSICAL TESTS ON KERB STONES :

Sl No.	Identification	Flexural strength, fcr in N/sqmm	Characteristic Compressive Strength, fck in N/sqmm	Avg. Characteristic. Compressive Strength fck in N/sqmm	Remarks
1	001	3.38	23.40	**23.13**	As per Cl. 6.2.2 of IS 456- 2000, fcr=0.7√ fck
2	002	3.34	22.90		
3	003	3.36	23.10		

2. WATER ABSORPTION TEST

Sl No	Identification	Water absorption %	Average value %
1	001	4.57	**4.55**
2	002	4.43	
3	003	4.65	

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Jakkur Govt School Road Ch: 60.00m to 90.00m

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SC/QC/YRI/2019-20/W7-MM2-KS3 **Date: 07-02-2022**

TEST REPORT

Sub: Testing of Pre-cast Material-Kerb Stones.
{Project*: Repair and Improvements to drains Mandi Mariyappa Reddy main road in Mariyannapalya in ward No 07 Byatarayanapura.}
Ref.: Material testing/PMC/20-21,
Report Required for: Assistant Executive Engineer,
RI,Yelahanka Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: M/s KRIDL, Bangalore.

1. PHYSICAL TESTS ON KERB STONES :

Sl No.	Identification	Flexural strength, fcr in N/sqmm	Characteristic Compressive Strength, fck in N/sqmm	Avg. Characteristic. Compressive Strength fck in N/sqmm	Remarks
1	001	3.36	23.15	**23.15**	As per Cl. 6.2.2 of IS 456- 2000, fcr=0.7√ fck
2	002	3.34	22.85		
3	003	3.38	23.45		

2. WATER ABSORPTION TEST

Sl No	Identification	Water absorption %	Average value %
1	001	4.76	**4.73**
2	002	4.63	
3	003	4.81	

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Jakkur KV Jayaram Road to Butterfly Garments Ch: 90.00m to 120.00m

Assistant Executive Engineer
Road Infrastructure, Yelahanka Division
Bruhat Bengaluru Mahanagara Palike
Bengaluru - 02

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SCQC/YRI/2019-20/W7-MM2-KSI

Date: 09-02-2022

TEST REPORT

Sub: Testing of Pre-cast Material-Kerb Stones.
(Project*: Repair and Improvements to drains Mandi Mariyappa Reddy main road in Mariyannapalya in ward No 07 Byatarayanapura.)
Ref: Material testing/PMC/20-21,
Report Required for: Assistant Executive Engineer,
RI,Yelahanka Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: M/s KRIDL, Bangalore.

1. PHYSICAL TESTS ON KERB STONES :

Sl No.	Identification	Flexural strength, fcr in N/sqmm	Characteristic Compressive Strength, fck in N/sqmm	Avg. Characteristic. Compressive Strength fck in N/sqmm	Remarks
1	001	3.40	23.65	23.40	As per Cl. 6.2.2 of IS 456- 2000, fcr=0.7√ fck
2	002	3.36	23.15		
3	003	3.38	23.40		

2. WATER ABSORPTION TEST

Sl No	Identification	Water absorption %	Average value %
1	001	4.51	4.54
2	002	4.48	
3	003	4.65	

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Jakkur KV Jayaram Road to Butterfly Garments Ch: 180.00m to 210.00m

Assistant Executive Engineer
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Bruhat Benga... Palike
Bangalore - 92

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SC/QC/YRI/2019-20/W7-MM2-GSB2

Date: 11-02-2022

TEST REPORT ON GRANULAR SUBBASE MIX
(GRADATION TEST)

Sub: To conduct tests on GSB (Grade-V) mix.
{Project*: Repair and Improvements to drains Mandi Mariyappa Reddy main road in Mariyannapalya in ward No 07 Byatarayanapura.}
Ref.: Material testing/PMC/20-21,
Report Required for: Assistant Executive Engineer,
RI,Yelahanka Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: M/s KRIDL, Bangalore.

TEST RESULTS

1. **Gradation Test:**

TABLE 1.1

Sieve Size mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Specified Limits as per MoRTH Specifications, V Revision-2013
75.00	**100.00**	100
53.00	**95.45**	80-100
26.50	**73.60**	55-90
9.50	**53.25**	35-65
4.75	**44.80**	25-50
2.36	**16.95**	10-20
0.85	**7.45**	2-10
0.425	**3.65**	0-5

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Jakkur Government High School Beside Rd Ch: 30.00m to 60.00m

Assistant Executive Engineer
Road Infrastructure (Yelahanka Division)
Bruhat Bengaluru Mahanagara Palike
Bengaluru - 02.

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Date: 11-02-2022

TABLE 1.2

SL No	Test conducted	Test Results	Tests Conforms to IS 2386(Part I to IV)– 1963 (Reaffirmed on 2002) & Requirements as per IS 383-1970 & M.o.R.T.H Specification, V Revision -2013.
1.	Water absorption, %	**0.43 %**	Not more than 2.0 %
2.	Liquid Limit, %	**18.54**	Not more than 25.0 %
3.	Plasticity Index, %	**NP**	Not more than 6.0 %
4.	Moisture Content, %	**6.29**	----------
5.	Aggregate Impact Value, %	**28.74**	Not more than 40.00 %

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Jakkur Government High School Beside Rd Ch: 30.00m to 60.00m

Assistant Executive Engineer
Road Infrastu... ...nka Division)
Bruhat Bangal... ...gara Palike
Bengaluru - 92

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SC/QC/YRI/2019-20/W7-MM2-GSB3 **Date: 14-02-2022**

TEST REPORT ON GRANULAR SUBBASE MIX
(GRADATION TEST)

Sub: To conduct tests on GSB (Grade-V) mix.
{Project*: Repair and Improvements to drains Mandi Mariyappa Reddy main road in Mariyannapalya in ward No 07 Byatarayanapura.}
Ref.: Material testing/PMC/20-21,
Report Required for: Assistant Executive Engineer,
RI,Yelahanka Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: M/s KRIDL, Bangalore.

TEST RESULTS

1. **Gradation Test:**
TABLE 1.1

Sieve Size mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Specified Limits as per MoRTH Specifications, V Revision-2013
75.00	**100.00**	100
53.00	**98.35**	80-100
26.50	**74.15**	55-90
9.50	**50.65**	35-65
4.75	**42.95**	25-50
2.36	**18.15**	10-20
0.85	**6.85**	2-10
0.425	**3.45**	0-5

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Jakkur Govt School Road Ch: 60.00m to 90.00m

Assistant Executive Engineer
Road Infrastructure, (Yelahanka Division)
Bruhat Bengaluru Mahanagara Palike
Bengaluru - 92.

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Date: 14-02-2022

TABLE 1.2

SL No	Test conducted	Test Results	Tests Conforms to IS 2386(Part I to IV)– 1963 (Reaffirmed on 2002) & Requirements as per IS:383-1970 & M.o.R.T.H Specification, V Revision -2013.
1.	Water absorption, %	**0.41 %**	Not more than 2.0 %
2.	Liquid Limit, %	**18.63**	Not more than 25.0 %
3.	Plasticity Index, %	**NP**	Not more than 6.0 %
4.	Moisture Content, %	**6.84**	----------
5.	Aggregate Impact Value, %	**28.96**	Not more than 40.00 %

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Jakkur Govt School Road Ch: 60.00m to 90.00m

Assistant Executive Engineer
Road Infrastructure, (Yelahanka Division)
Bruhat Bengaluru Mahanagara Palike
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SC/QC/YRI/2019-20/W7-MM2-W1 Date: 14-02-2022

TEST REPORT ON WET MIX MACADAM MIX
(GRADATION TEST)

Sub: To conduct Gradation test on Wet Mix Macadam (WMM) Mix.
{Project*: Repair and Improvements to drains Mandi Mariyappa Reddy main road in Mariyannapalya in ward No 07 Byatarayanapura.}
Ref.: Material testing/PMC/20-21,
Report Required for: Assistant Executive Engineer,
RI,Yelahanka Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: M/s KRIDL, Bangalore.

TEST RESULTS

1. Gradation Test:

TABLE 1.1

Sieve Size mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Specified Limits as per MoRTH Specifications, V Revision-2013
53.00	**100.00**	100
45.00	**97.35**	95-100
26.50	**---**	-
22.40	**71.65**	60-80
11.20	**54.05**	40-60
4.75	**32.90**	25-40
2.36	**24.15**	15-30
0.600	**19.55**	8-22
0.075	**3.85**	0-5

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Jakkur From KV jayaraman Main Road to Butterfly Garments Ch:30.00m to 60.00m

Assistant Executive Engineer
Road Infrastructure (Yelahanka Division)
Bruhat Bengaluru Mahanagara Palike
Bengaluru - 92.

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E-mail siliconcivilengineers@gmail.com

Date: 14-02-2022

TABLE 1.2

SL No	Test conducted	Test Results	Tests Conforms to IS 2386(Part I to IV)– 1963 (Reaffirmed on 2002) & Requirements as per IS:383-1970 & M.o.R.T.H Specification, V Revision -2013.
1.	Aggregate Impact Value	**27.09 %**	Not more than 30.00 %
2.	Combined Flakiness and Elongation index, %	**28.56 %**	Not more than 35.0 %
3.	Water absorption, %	**0.42 %**	Not more than 2.0 %
4.	Plasticity Index, %	**NP**	Not more than 6.0 %

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Jakkur From KV jayaraman Main Road to Butterfly Garments Ch:30.00m to 60.00m

Assistant Executive Engineer
Road Infrastructure (Yelahanka Division)
Bruhat Bengaluru Mahanagara Palike
Bengaluru-92.

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SC/QC/YRI/2019-20/W7-MM2-W2 Date: 16-02-2022

TEST REPORT ON WET MIX MACADAM MIX

(GRADATION TEST)

Sub: To conduct Gradation test on Wet Mix Macadam (WMM) Mix.
{Project*: Repair and Improvements to drains Mandi Mariyappa Reddy main road in Mariyannapalya in ward No 07 Byatarayanapura.}
Ref.: Material testing/PMC/20-21,
Report Required for: Assistant Executive Engineer,
RI,Yelahanka Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: M/s KRIDL, Bangalore.

TEST RESULTS

1. Gradation Test:

TABLE 1.1

Sieve Size mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Specified Limits as per MoRTH Specifications, V Revision-2013
53.00	**100.00**	100
45.00	**96.55**	95-100
26.50	—	-
22.40	**72.35**	60-80
11.20	**50.10**	40-60
4.75	**33.45**	25-40
2.36	**23.65**	15-30
0.600	**18.95**	8-22
0.075	**3.70**	0-5

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Balaji layout Road 02 Ch:30.00m to 59.00m

Assistant Executive Engineer
Road ... Division)
Bruhat Bengalu... ...anagara Palike
Bengaluru - 02.

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Date: 16-02-2022

TABLE 1.2

SL No	Test conducted	Test Results	Tests Conforms to IS 2386(Part I to IV)– 1963 (Reaffirmed on 2002) & Requirements as per IS:383-1970 & M.o.R.T.H Specification, V Revision -2013.
1.	Aggregate Impact Value	**27.13 %**	Not more than 30.00 %
2.	Combined Flakiness and Elongation index, %	**28.65%**	Not more than 35.0 %
3.	Water absorption, %	**0.41 %**	Not more than 2.0 %
4.	Plasticity Index, %	**NP**	Not more than 6.0 %

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Balaji layout Road 02 Ch:30.00m to 59.00m

Assistant Executive Engineer
Rural Infrastructure Division
Bruhat Bengaluru Mahanagara Palike
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SC/QC/YRI/2019-20/W7-MM2-W3

Date: 17-02-2022

TEST REPORT ON WET MIX MACADAM MIX

Sub: To conduct Gradation test on Wet Mix Macadam (WMM) Mix. **(GRADATION TEST)**
{Project*: Repair and Improvements to drains Mandi Mariyappa Reddy main road in Mariyannapalya in ward No 07 Byatarayanapura.}
Ref.: Material testing/PMC/20-21,
Report Required for: Assistant Executive Engineer,
RI,Yelahanka Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: M/s KRIDL, Bangalore.

TEST RESULTS

1. Gradation Test:

TABLE 1.1

Sieve Size mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Specified Limits as per MoRTH Specifications, V Revision-2013
53.00	**100.00**	100
45.00	**97.45**	95-100
26.50	**—**	-
22.40	**72.10**	60-80
11.20	**53.45**	40-60
4.75	**36.80**	25-40
2.36	**25.15**	15-30
0.600	**19.65**	8-22
0.075	**3.55**	0-5

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Balaji layout Road 03 Ch:60.00m to 79.20m

Assistant Executive Engineer
Road Infrastruc... (Yelahanka Division)
BBMP Bengalu... ...anagara Palike
Bengaluru - 02.

SILICON CONSULTING ENGINEERS

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Date: 17-02-2022

TABLE 1.2

SL No	Test conducted	Test Results	Tests Conforms to IS 2386(Part I to IV)– 1963 (Reaffirmed on 2002) & Requirements as per IS:383-1970 & M.o.R.T.H Specification, V Revision -2013.
1.	Aggregate Impact Value	**27.18 %**	Not more than 30.00 %
2.	Combined Flakiness and Elongation index, %	**28.36 %**	Not more than 35.0 %
3.	Water absorption, %	**0.43 %**	Not more than 2.0 %
4.	Plasticity Index, %	**NP**	Not more than 6.0 %

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Balaji layout Road 03 Ch:60.00m to 79.20m

Assistant Executive Engineer
Road Infrastruc... Shanka Division)
Bruhat Bengalu... Mahanagara Palike
Bengaluru - 02.

SILICON CONSULTING ENGINEERS

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CONSULTING ENGINEERS

SC/QC/YRI/2019-20/W7-MM2-W4 **Date: 18-02-2022**

TEST REPORT ON WET MIX MACADAM MIX

(GRADATION TEST)

Sub: To conduct Gradation test on Wet Mix Macadam (WMM) Mix.
{Project*: Repair and Improvements to drains Mandi Mariyappa Reddy main road in Mariyannapalya in ward No 07 Byatarayanapura.}
Ref.: Material testing/PMC/20-21,
Report Required for: Assistant Executive Engineer,
RI,Yelahanka Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: M/s KRIDL, Bangalore.

TEST RESULTS

1. Gradation Test:

TABLE 1.1

Sieve Size mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Specified Limits as per MoRTH Specifications, V Revision-2013
53.00	**100.00**	100
45.00	**98.35**	95-100
26.50	**---**	-
22.40	**72.65**	60-80
11.20	**54.25**	40-60
4.75	**32.90**	25-40
2.36	**26.15**	15-30
0.600	**18.45**	8-22
0.075	**3.60**	0-5

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Balaji layout Road 04 Ch:30.00m to 60.00m

Page No. 1/2,

Assistant Executive Engineer
Road Infrastruc... (Yelahanka Division)
Bruhat Bengalu... Mahanagara Palike
Bengaluru - 92.

SILICON CONSULTING ENGINEERS

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E-mail siliconcivilengineers@gmail.com

Date: 18-02-2022

TABLE 1.2

SL No	Test conducted	Test Results	Tests Conforms to IS 2386(Part I to IV)– 1963 (Reaffirmed on 2002) & Requirements as per IS:383-1970 & M.o.R.T.H Specification, V Revision -2013.
1.	Aggregate Impact Value	**27.36 %**	Not more than 30.00 %
2.	Combined Flakiness and Elongation index, %	**28.67 %**	Not more than 35.0 %
3.	Water absorption, %	**0.42 %**	Not more than 2.0 %
4.	Plasticity Index, %	**NP**	Not more than 6.0 %

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Balaji layout Road 04 Ch:30.00m to 60.00m

Assistant Executive Engineer
Road Infrastructure Division
Bruhat Bengaluru Mahanagara Palike
Bangalore-02

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SC/QC/YRI/2019-20/W7-MM2-W5

Date: 18-02-2022

TEST REPORT ON WET MIX MACADAM MIX
(GRADATION TEST)

Sub: To conduct Gradation test on Wet Mix Macadam (WMM) Mix.
{Project*: Repair and Improvements to drains Mandi Mariyappa Reddy main road in Mariyannapalya in ward No 07 Byatarayanapura.}
Ref.: Material testing/PMC/20-21,
Report Required for: Assistant Executive Engineer,
RI,Yelahanka Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: M/s KRIDL, Bangalore.

TEST RESULTS

1. Gradation Test:

TABLE 1.1

Sieve Size mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Specified Limits as per MoRTH Specifications, V Revision-2013
53.00	100.00	100
45.00	97.25	95-100
26.50	---	-
22.40	71.55	60-80
11.20	56.20	40-60
4.75	36.80	25-40
2.36	24.65	15-30
0.600	18.45	8-22
0.075	3.90	0-5

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Balaji layout Road 05 Ch:0.00m to 21.70m

Assistant Executive Engineer
Road Infrastructure, Yelahanka Division)
Bruhat Bengaluru Mahanagara Palike

SILICON CONSULTING ENGINEERS

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Date: 21-02-2022

TABLE 1.2

SL No	Test conducted	Test Results	Tests Conforms to IS 2386(Part I to IV)– 1963 (Reaffirmed on 2002) & Requirements as per IS:383-1970 & M.o.R.T.H Specification, V Revision -2013.
1.	Aggregate Impact Value	**27.18%**	Not more than 30.00 %
2.	Combined Flakiness and Elongation index, %	**28.86%**	Not more than 35.0 %
3.	Water absorption, %	**0.42 %**	Not more than 2.0 %
4.	Plasticity Index, %	**NP**	Not more than 6.0 %

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Jakkur From KV jayaraman Main Road to Butterfly Garments Ch:180.00m to 195.20m

Assistant Executive Engineer
Road Infrastructure (Yelahanka Division)
Bruhat Bengaluru Mahanagara Palike

SILICON CONSULTING ENGINEERS

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SC/QC/YRI/2019-20/W7-MM2-W7

Date: 22-02-2022

TEST REPORT ON WET MIX MACADAM MIX (GRADATION TEST)

Sub: To conduct Gradation test on Wet Mix Macadam (WMM) Mix.
{Project*: Repair and Improvements to drains Mandi Mariyappa Reddy main road in Mariyannapalya in ward No 07 Byatarayanapura.}
Ref.: Material testing/PMC/20-21,
Report Required for: Assistant Executive Engineer,
RI,Yelahanka Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: M/s KRIDL, Bangalore.

TEST RESULTS

1. Gradation Test:

TABLE 1.1

Sieve Size mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Specified Limits as per MoRTH Specifications, V Revision-2013
53.00	**100.00**	100
45.00	**98.35**	95-100
26.50	**---**	-
22.40	**71.65**	60-80
11.20	**54.05**	40-60
4.75	**32.90**	25-40
2.36	**24.15**	15-30
0.600	**18.55**	8-22
0.075	**3.75**	0-5

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Jakkur From Butterfly Garments to Kempegowda Circle Ch:49.00m to 51.00m

Assistant Executive Engineer
Road Infrastructure, Yelahanka Division
Bruhat Bengaluru Mahanagara Palike

SILICON CONSULTING ENGINEERS

#S1317, 4th CROSS BEL 2nd STAGE BHARATH NAGAR ,BANGALORE – 560 091. CELL : 9448353883
E-mail siliconcivilengineers@gmail.com

Date: 22-02-2022

TABLE 1.2

SL No	Test conducted	Test Results	Tests Conforms to IS 2386(Part I to IV)– 1963 (Reaffirmed on 2002) & Requirements as per IS:383-1970 & M.o.R.T.H Specification, V Revision -2013.
1.	Aggregate Impact Value	**27.46 %**	Not more than 30.00 %
2.	Combined Flakiness and Elongation index, %	**28.35 %**	Not more than 35.0 %
3.	Water absorption, %	**0.42 %**	Not more than 2.0 %
4.	Plasticity Index, %	**NP**	Not more than 6.0 %

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Jakkur From Butterfly Garments to Kempegowda Circle Ch:49.00m to 51.00m

Assistant Executive Engineer
Road Infrastructure, (Yelahanka Division)
Bruhat Bengaluru Mahanagara Palike

SILICON CONSULTING ENGINEERS

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SC/QC/YRI/2019-20/W7-MM2-W8

Date: 23-02-2022

TEST REPORT ON WET MIX MACADAM MIX

Sub: To conduct Gradation test on Wet Mix Macadam (WMM) Mix. **(GRADATION TEST)**
{Project*: Repair and Improvements to drains Mandi Mariyappa Reddy main road in Mariyannapalya in ward No 07 Byatarayanapura.}
Ref.: Material testing/PMC/20-21,
Report Required for: Assistant Executive Engineer,
RI,Yelahanka Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: M/s KRIDL, Bangalore.

TEST RESULTS

1. Gradation Test:
TABLE 1.1

Sieve Size mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Specified Limits as per MoRTH Specifications, V Revision-2013
53.00	**100.00**	100
45.00	**97.35**	95-100
26.50	**---**	-
22.40	**72.80**	60-80
11.20	**54.15**	40-60
4.75	**36.80**	25-40
2.36	**24.10**	15-30
0.600	**18.45**	8-22
0.075	**3.95**	0-5

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Jakkur From Butterfly Garments to Kempegowda Circle Ch:101.00m to 115.00m

Assistant Executive Engineer
Road Infrastructure, (Yelahanka Division)
Bruhat Bengaluru Mahanagara Palike

SILICON CONSULTING ENGINEERS

#S1317, 4th CROSS BEL 2nd STAGE BHARATH NAGAR ,BANGALORE – 560 091. CELL : 9448353883
E-mail siliconcivilengineers@gmail.com

Date: 23-02-2022

TABLE 1.2

SL No	Test conducted	Test Results	Tests Conforms to IS 2386(Part I to IV)– 1963 (Reaffirmed on 2002) & Requirements as per IS:383-1970 & M.o.R.T.H Specification, V Revision -2013.
1.	Aggregate Impact Value	**27.08 %**	Not more than 30.00 %
2.	Combined Flakiness and Elongation index, %	**28.56 %**	Not more than 35.0 %
3.	Water absorption, %	**0.41 %**	Not more than 2.0 %
4.	Plasticity Index, %	**NP**	Not more than 6.0 %

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Jakkur From Butterfly Garments to Kempegowda Circle Ch:101.00m to 115.00m

Assistant Executive Engineer
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SC/QC/YRI/2019-20/W7-MM 2-BD1

Date: 21-02-2022

1. TEST REPORT ON BITUMEN SAMPLE:

Sub: Testing of Bitumen sample VG-30 Grade.
{Project*: Repair and Improvements to roads and drains and footpaths of Tatanagar Main Road in ward no. 08 Kodigehalli.}
Ref.: Material testing/PMC/19-20,
Report Required for: Assistant Executive Engineer,
RI, Yelahanka Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: M/s KRIDL, Bangalore.
Technical Reference: Ministry of Road Transport and Highways, V Revision, 2013 and IS 73: 1992.

TABLE 1.1 ;

SL No	Details	Test Results	Requirements as per I.S 73 –1992 Specifications
1.	Penetration at 25^0 C	**52.90^0 C**	Min. 45
2.	Ductility Value at 25^0 C	**108.60 cm**	40
3.	Flash point	**249^0 C**	Minimum 220^0 C
4.	Softening point	**51.20^0 C**	Min. 47

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Jakkur From KV jayaraman Main Road to Butterfly Garments Ch:30.00m to 60.00m

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SC/QC/YRI/2019-20/W7-MM2-CD1 **Date: 21-02-2022**

1. TEST REPORT ON COARSE AGGREGATE:

Sub: Testing of Coarse Aggregate used in Dense Graded Bituminous Macadam.
{Project*: Repair and Improvements to roads and drains and footpaths of Tatanagar Main Road in ward no. 08 Kodigehalli.}
Ref.: Material testing/PMC/19-20,
Report Required for: Assistant Executive Engineer,
RI,Yelahanka Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: M/s KRIDL, Bangalore.

TABLE 1.1 ;

SL No	Test conducted	Test Results	Tests Conforms to IS 2386(Part I to IV)– 1963 (Reaffirmed on 2002) & Requirements as per IS:383-1970 & M.o.R.T.H Specification, V Revision -2013.
1.	Aggregate Impact Value	**23.16%**	Not more than 27.00 % for DBM
2.	Combined Flakiness and Elongation index, %	**26.73%**	Not more than 35.0 %
3.	Water absorption, %	**0.42%**	Not more than 2.0 %
4.	Specific gravity	**2.62**	------
5.	Soundness	**6.86 %**	Max. 12 % in Sodium Sulphate

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Jakkur From KV jayaraman Main Road to Butterfly Garments Ch:180.00m to 195.20m

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SC/QC/YRI/2019-20/W7-MM2-DBM1 **Date: 25-02-2022**

1.TEST REPORT ON BITUMINOUS MIXES :
(BITUMEN EXTRACTION TEST & GRADATION TEST)

Sub: To determine the percentage of bitumen and gradation for DBM mix sample.
{Project*: Repair and Improvements to roads and drains and footpaths of Tatanagar Main Road in ward no. 08 Kodigehalli.}
Ref.: Material testing/PMC/19-20,
Report Required for: Assistant Executive Engineer,
RI,Yelahanka Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: M/s KRIDL, Bangalore.

TEST RESULTS

A. Type of Construction : **Dense Graded Bituminous Macadam.**
1. The bitumen content obtained after subjecting the sample for Bitumen Extraction test = **4.53 %**

2. **Gradation Test**
TABLE 1.1

Sieve Size, mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Gradation requirement as per Table 500-10 of MORTH Specfications-2013 DBM (Grading - 2)
37.5	**100**	100
26.5	**97.15**	90-100
19.0	**81.40**	71-95
13.20	**74.80**	56-80
4.75	**43.35**	38-54
2.36	**36.80**	28-42
0.300	**19.05**	7-21
0.075	**6.40**	2-8

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Jakkur From KV jayaraman Main Road to Butterfly Garments Ch:261.20m to 262.20m

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SC/QC/YRI/2019-20/W7-MM2-DS1 **Date: 25-02-2022**

1.TEST REPORT ON BITUMINOUS MIXES :
(STABILITY OF BITUMINOUS MIX)

Sub: To determine the stability of bituminous mix for DBM mix sample.
{Project*: Repair and Improvements to roads and drains and footpaths of Tatanagar Main Road in ward no. 08 Kodigehalli.}

Ref.: Material testing/PMC/19-20,
Report Required for: Assistant Executive Engineer,
RI,Yelahanka Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: M/s KRIDL, Bangalore.

TEST RESULTS

Table 1: Properties of DBM (Gr-2) Mix

Sl. No.	Test Property	*Test results obtained by Marshall method	Requirements of Dense Bituminous Macadam, Grade-2 as per M.o.R.T&H (IV Revision)-2001 Specifications
1	Marshall Stability (75 blows) (At 60°C), kgs.	**1246**	900
2	Marshall Flow at 60°C, mm.	**3.38**	2.0 - 4.0

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Jakkur From KV jayaraman Main Road to Butterfly Garments Ch:261.20m to 262.20m

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SC/QC/YRI/2019-20/W7-MM2-DBM3 **Date: 28-02-2022**

1.TEST REPORT ON BITUMINOUS MIXES :
(BITUMEN EXTRACTION TEST & GRADATION TEST)

Sub: To determine the percentage of bitumen and gradation for DBM mix sample.
{Project*: Repair and Improvements to roads and drains and footpaths of Tatanagar Main Road in ward no. 08 Kodigehalli.}
Ref.: Material testing/PMC/19-20,
Report Required for: Assistant Executive Engineer,
RI,Yelahanka Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: M/s KRIDL, Bangalore.

TEST RESULTS

A. Type of Construction : **Dense Graded Bituminous Macadam.**
1. The bitumen content obtained after subjecting the sample for Bitumen Extraction test = **4.54 %**

2. **Gradation Test**
TABLE 1.1

Sieve Size, mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Gradation requirement as per Table 500-10 of MORTH Specfications-2013 DBM (Grading - 2)
37.5	**100**	100
26.5	**98.15**	90-100
19.0	**82.55**	71-95
13.20	**76.10**	56-80
4.75	**50.65**	38-54
2.36	**36.05**	28-42
0.300	**17.90**	7-21
0.075	**6.45**	2-8

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Jakkur From Butterfly Garments to Kempegowda Circle Ch:128.00m to 149.00m

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SC/QC/YRI/2019-20/W7-MM2-DBM5

Date: 03-03-2022

LTEST REPORT ON BITUMINOUS MIXES :
(BITUMEN EXTRACTION TEST & GRADATION TEST)

Sub: To determine the percentage of bitumen and gradation for DBM mix sample.
{Project*: Repair and Improvements to roads and drains and footpaths of Tatanagar Main Road in ward no. 08 Kodigehalli.}

Ref.: Material testing/PMC/19-20,

Report Required for: Assistant Executive Engineer,
RI, Yelahanka Division,
BBMP, Bangalore.

Name of the Agency/Contractor*: M/s KRIDL, Bangalore.

TEST RESULTS

A. Type of Construction : **Dense Graded Bituminous Macadam.**

1. The bitumen content obtained after subjecting the sample for Bitumen Extraction test = **4.53 %**

2. **Gradation Test**

TABLE 1.1

Sieve Size, mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Gradation requirement as per Table 500-10 of MORTH Specfications-2013 DBM (Grading - 2)
37.5	100	100
26.5	96.45	90-100
19.0	83.65	71-95
13.20	71.25	56-80
4.75	46.10	38-54
2.36	32.75	28-42
0.300	19.25	7-21
0.075	6.45	2-8

The result of the materials tested meets the standards and hence can be used for the work.

Sample Collected Site : Jakkur From Kempegowda Circle to Organic Valley Shop Ch:30.00m to 52.60m

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SC/QC/YRI/2019-20/W7-MM2-DS5 **Date: 03-03-2022**

1.TEST REPORT ON BITUMINOUS MIXES :
(STABILITY OF BITUMINOUS MIX)

Sub: To determine the stability of bituminous mix for DBM mix sample.
{Project*: Repair and Improvements to roads and drains and footpaths of Tatanagar Main Road in ward no. 08 Kodigehalli.}
Ref.: Material testing/PMC/19-20,
Report Required for: Assistant Executive Engineer,
RI,Yelahanka Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: M/s KRIDL, Bangalore.

TEST RESULTS

Table 1: Properties of DBM (Gr-2) Mix

Sl. No.	Test Property	*Test results obtained by Marshall method	Requirements of Dense Bituminous Macadam, Grade-2 as per M.o.R.T&H (IV Revision)-2001 Specifications
1	Marshall Stability (75 blows) (At 60°C), kgs.	**1256**	900
2	Marshall Flow at 60°C, mm.	**3.42**	2.0 - 4.0

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Jakkur From Kempegowda Circle to Organic Valley Shop Ch:30.00m to 52.60m

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SC/QC/YRI/2019-20/W7-MM2-BB1 **Date: 21-02-2022**

1. TEST REPORT ON BITUMEN SAMPLE:

Sub: Testing of Bitumen sample VG-30 Grade.
{Project*: Repair and Improvements to roads and drains and footpaths of Tatanagar Main Road in ward no. 08 Kodigehalli.}
Ref.: Material testing/PMC/19-20,
Report Required for: Assistant Executive Engineer,
RI,Yelahanka Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: M/s KRIDL, Bangalore.
Technical Reference: Ministry of Road Transport and Highways, V Revision, 2013 and IS 73: 1992.

TABLE 1.1 ;

SL No	Details	Test Results	Requirements as per I.S 73 –1992 Specifications
1.	Penetration at 25^0 C	**51.30^0 C**	Min. 45
2.	Ductility Value at 25^0 C	**108.0 cm**	40
3.	Flash point	**236^0 C**	Minimum 220^0 C
4.	Softening point	**50.40^0 C**	Min. 47

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Jakkur Government High School Beside Rd Ch:30.00m to 60.00m

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SC/QC/YRI/2019-20/W7-MM2-BC1

Date: 26-02-2022

LTEST REPORT ON BITUMINOUS MIXES :
(BITUMEN EXTRACTION TEST & GRADATION TEST)

Sub: To determine the percentage of bitumen and gradation for BC mix sample.
{Project*: Repair and Improvements to roads and drains and footpaths of Tatanagar Main Road in ward no. 08 Kodigehalli.}

Ref.: Material testing/PMC/19-20,

Report Required for: Assistant Executive Engineer,
RI,Yelahanka Division,
BBMP, Bangalore.

Name of the Agency/Contractor*: M/s KRIDL, Bangalore.

TEST RESULTS

A. Type of Construction : **Bituminous Concrete**

1. The bitumen content obtained after subjecting the sample for Bitumen Extraction test = **5.43 %**

2. **Gradation Test**

TABLE 1.1

Sieve Size, mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Gradation requirement as per Table 500-17 of MORTH Specfications-2013 BC (Grading - 2)
19.0	100	100
13.2	97.25	90-100
9.5	80.45	70-88
4.75	67.20	53-71
2.36	51.70	42-58
1.18	46.30	34-48
0.600	32.75	26-38
0.300	24.45	18-28
0.150	18.25	12-20
0.075	7.15	4-10

The result of the materials tested meets the standards and hence can be used for the work.

Sample Collected Site : Jakkur From Kempegowda Circle to Organic Valley Shop Ch:30.00m to 52.60m

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SC/QC/YRI/2019-20/W7-MM2-BS1 **Date: 26-02-2022**

LTEST REPORT ON BITUMINOUS MIXES :
(STABILITY OF BITUMINOUS MIX)

Sub: To determine the stability of bituminous mix for BC mix sample.
{Project*: Repair and Improvements to roads and drains and footpaths of Tatanagar Main Road in ward no. 08 Kodigehalli.}
Ref.: Material testing/PMC/19-20,
Report Required for: Assistant Executive Engineer,
RI,Yelahanka Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: M/s KRIDL, Bangalore.

TEST RESULTS

Table 1: Properties of BC (Gr-2) Mix

Sl. No.	Test Property	*Test results obtained by Marshall method	Requirements of Bituminous Concrete, Grade-2 as per M.o.R.T&H (V Revision)-2013 Specifications
1	Marshall Stability (75 blows) (At 60°C), kgs.	**1364**	900
2	Marshall Flow at 60°C, mm.	**3.52**	2.0 - 4.0

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Jakkur From Kempegowda Circle to Organic Valley Shop Ch:30.00m to 52.60m

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SC/QC/YRI/2019-20/W7-MM2-BS2

Date: 26-02-2022

1.TEST REPORT ON BITUMINOUS MIXES :
(STABILITY OF BITUMINOUS MIX)

Sub: To determine the stability of bituminous mix for BC mix sample.
{Project*: Repair and Improvements to roads and drains and footpaths of Tatanagar Main Road in ward no. 08 Kodigehalli.}
Ref.: Material testing/PMC/19-20,
Report Required for: Assistant Executive Engineer,
RI,Yelahanka Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: M/s KRIDL, Bangalore.

TEST RESULTS

Table 1: Properties of BC (Gr-2) Mix

Sl. No.	Test Property	*Test results obtained by Marshall method	Requirements of Bituminous Concrete, Grade-2 as per M.o.R.T&H (V Revision)-2013 Specifications
1	Marshall Stability (75 blows) (At 60°C), kgs.	**1358**	900
2	Marshall Flow at 60°C, mm.	**3.46**	2.0 - 4.0

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Jakkur From Butterfly Garments to Kempegowda Circle Ch:61.50m to 85.50m

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SC/QC/YRI/2019-20/W7-MM2-BC4 **Date: 04-03-2022**

LTEST REPORT ON BITUMINOUS MIXES :
(BITUMEN EXTRACTION TEST & GRADATION TEST)

Sub: To determine the percentage of bitumen and gradation for BC mix sample.
{Project*: Repair and Improvements to roads and drains and footpaths of Tatanagar Main Road in ward no. 08 Kodigehalli.}
Ref.: Material testing/PMC/19-20,
Report Required for: Assistant Executive Engineer,
RI,Yelahanka Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: M/s KRIDL, Bangalore.

TEST RESULTS

A. Type of Construction : **Bituminous Concrete**
1. The bitumen content obtained after subjecting the sample for Bitumen Extraction test = **5.41 %**

2. **Gradation Test**
TABLE 1.1

Sieve Size, mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Gradation requirement as per Table 500-17 of MORTH Specfications-2013 BC (Grading - 2)
19.0	**100**	100
13.2	**98.75**	90-100
9.5	**81.25**	70-88
4.75	**73.65**	53-71
2.36	**51.10**	42-58
1.18	**43.80**	34-48
0.600	**32.60**	26-38
0.300	**24.45**	18-28
0.150	**16.05**	12-20
0.075	**7.20**	4-10

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Jakkur From KV jayaraman Main Road to Butterfly Garments Ch:231.20m to 261.20m

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SC/QC/YRI/2019-20/W7-MM2-BS4 **Date: 04-03-2022**

1.TEST REPORT ON BITUMINOUS MIXES :
(STABILITY OF BITUMINOUS MIX)

Sub: To determine the stability of bituminous mix for BC mix sample.
{Project*: Repair and Improvements to roads and drains and footpaths of Tatanagar Main Road in ward no. 08 Kodigehalli.}
Ref.: Material testing/PMC/19-20,
Report Required for: Assistant Executive Engineer,
RI,Yelahanka Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: M/s KRIDL, Bangalore.

TEST RESULTS

Table 1: Properties of BC (Gr-2) Mix

Sl. No.	Test Property	*Test results obtained by Marshall method	Requirements of Bituminous Concrete, Grade-2 as per M.o.R.T&H (V Revision)-2013 Specifications
1	Marshall Stability (75 blows) (At 60°C), kgs.	**1352**	900
2	Marshall Flow at 60°C, mm.	**3.40**	2.0 - 4.0

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Jakkur From KV jayaraman Main Road to Butterfly Garments Ch:231.20m to 261.20m

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SC/QC/YRI/2019-20/W7-MM2-BC3 Date: 04-03-2022

1.TEST REPORT ON BITUMINOUS MIXES :
(BITUMEN EXTRACTION TEST & GRADATION TEST)

Sub: To determine the percentage of bitumen and gradation for BC mix sample.
{Project*: Repair and Improvements to roads and drains and footpaths of Tatanagar Main Road in ward no. 08 Kodigehalli.}
Ref.: Material testing/PMC/19-20,
Report Required for: Assistant Executive Engineer,
RI,Yelahanka Division,
BBMP, Bangalore.
Name of the Agency/Contractor*: M/s KRIDL, Bangalore.

TEST RESULTS

A. Type of Construction : **Bituminous Concrete**
1. The bitumen content obtained after subjecting the sample for Bitumen Extraction test = **5.44 %**

2. **Gradation Test**
TABLE 1.1

Sieve Size, mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Gradation requirement as per Table 500-17 of MORTH Specfications-2013 BC (Grading - 2)
19.0	**100**	100
13.2	**97.55**	90-100
9.5	**82.10**	70-88
4.75	**73.50**	53-71
2.36	**51.65**	42-58
1.18	**44.25**	34-48
0.600	**32.75**	26-38
0.300	**25.60**	18-28
0.150	**18.25**	12-20
0.075	**7.40**	4-10

The result of the materials tested meets the standards and hence can be used for the work.
Sample Collected Site : Jakkur From Butterfly Garments to Kempegowda Circle Ch:167.00m to 187.00m

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